

ABSTRACT OF THE INVENTION

The present invention provides both a method and means for regulating angiogenesis within living cells, tissues, and organs in-situ. The regulation is performed using native PR-39 peptide or one of its shorter-length homologs, for direct interaction with the  $\alpha 7$  subunit of such proteasomes as one present in the cytoplasm of viable cells. The result of PR-39 peptide interaction with proteasomes is a decrease in the intracellular degradation of active peptides such as HIF-1 $\alpha$  and a consequential stimulation of angiogenesis in-situ.

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